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Nine Species of *Graphidaceae* (*Ostropales*, *Ascomycota*) Collected in Siem Reap, Cambodia

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Nine species of seven genera in the family *Graphidaceae* are recognized as Cambodian member of the lichens and their distribution ranges are presented. Among them, one species, *Graphis cambodiensis* M. Nakan., Kashiw. & K. H. Moon, is new to science. It is distinct from allied species of the genus in having prominent lirellae covered by thallus nearly up to the exciples, muriform spores 75–105 × 20–30 μm in size and in producing norstictic acid. *Graphis commaculans* Vain. is reduced to a synonym of *Sarcographa gyrizans* (Leight.) Müll. Arg. The following seven species, *Carbacanthographis induta* (Müll. Arg.) Lücking, *Fissurina dumastii* Fée, *Graphis glaucescens* Fée, *G. supracola* A. W. Archer, *Gymnographa heterospora* (Nyl.) Staiger, *Hemithecium aphanes* (Mont. & v. d. Bosch) M. Nakan. & Kashiw. and *Sarcographa gyrizans* (Leight.) Müll. Arg. are new to the lichen flora of Cambodia.

Key words: Cambodia, *Carbacanthographis*, *Diorygma, Fissurina, Graphis cambodiensis, Gymnographa, Hemithecium, Sarcographa.*

The *Graphidaceae* comprises ca 20 genera in the world. Although it is widely distributed in the world and is apparently one of the most common lichen families also in Cambodia, only two species, *Diorygma hieroglyphicum* (Pers.) Staiger & Kalb and *Graphis acharii* (Fée) Müll. Arg. have been reported there (Kashiwadani 2008).

During our lichenological investigation in Cambodia in 2005 to 2009 under a part of the Joint Research Project on Conservation of Stone at Ta Nei Temple, Siem Reap supported by the National Research Institute for Cultural Properties, Tokyo, Kashiwadani and Moon collected ca 120 specimens of the Graphidaceae. Through their taxonomic studies, nine species have been recognized from the present area. Their taxonomic features and distribution ranges are briefly presented in the present paper. Among them, one species, *Graphis cambodiensis* M. Nakan., Kashiw. & K. H. Moon, is described as a new species.

Materials and Methods

The present study is based on ca 120 specimens of the family *Graphidaceae* collected in 2005 to 2009 by Kashiwadani and Moon around Angkor complex, Siem Reap in Cambodia. The main collection sites were outside of the Ta Nei temple but also include backyard of Bayon, Ta Prohm and Banteay Srei. Specimens reported in the present paper are kept in the herbarium of the National Museum of Nature and Science (TNS) unless otherwise cited. Chemical substances were studied by means of thin-layer chromatography (Culberson and Johnson 1982). Sections of apothecia and thalli were cut by hand-razor and mounted in GAW or lactophenol cotton-blue solutions.

Carbacanthographis induta (Müll. Arg.) Lücking in Lichenologist **41**: 433 (2009). [Fig. 1A]

Basionym. *Graphis induta* Müll. Arg. in Hedwigia **30**: 185 (1891). Type collection. Vietnam, Balansa s.n. (G–holotype !) (*tlc*: norstictic acid and stictic acid).

The specimens from the present area has the following diagnostic characters: thallus pale fawn, smooth, continuous; lirellae prominent, raised, irregularly branched, covered by a thalline margin nearly to the top of the exciples, up to 6 mm long, to 0.35 mm wide; exciple carbonized laterally but open at the base; labia convergent, covered with grayish white pruina; disc closed, not visible in the surface view (open disc with grayish white pruina are rarely observed); hymenium I –; asci 4(–6)-spored; spores colorless (I + reddish purple) with transversely 12–14-septa, (60–)70–105(–115) × 8–10 μm in size. Norstictic acid (major) and stictic acid (minor) present.

Carbacanthographis induta might be confused with *C. marcescens* (Fée) Staiger, a species widely distributed in tropical areas in the world. However, it can be easily distinguished from the latter by the spores with transverse septa and by the production of norstictic acid as a major chemical substance; *C. marcescens* has submuriform spores and produces salazinic acid. It resembles *C. candidata* (Nyl.) Staiger & Kalb, a species described from Brazil (Type collection, Paricatuba, Spruce, H-NYL 7538–holotype !), which differs in having submuriform spores and in producing protocetraric acid.

In Southeast Asia, this species has been known only from Vietnam (type collection), but the distribution range is now extended to Cambodia, where it is very common on barks of *Dipterocarpus alatus* and *Tetrameles nudiflora*.

Representative specimens examined. Cambodia. Prov. Siem Reap: Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27´N, 103°53´E), on bark of *Tetrameles nudiflora*, elevation about 30 m, Dec. 20, 2005, H. Kashiwadani 47739, 47742, 47746; the same locality, on bark of *Dipterocarpus alatus*, elevation about 30 m, July 19, 2006, H. Kashiwadani 47865, 47915; the same locality, on bark of *Tetrameles nudiflora*, H. Kashiwadani 47746, 47764; the same locality, on bark of Legminosae, elevation about 30 m, July 19, 2006, K. H. Moon 11401 (NIBR, TNS).

Diorygma hieroglyphicum (Pers.) Staiger & Kalb in Bibliotheca Lichenologica **85**: 113 (2002). [Fig. 1B]

The characteristic features for *Diorygma hieroglyphicum* are grayish to creamy white thallus, more or less raised lirellae with distinct cracks between labia and thallus, narrowly open disc with whitish gray pruina, non-carbonized exciples, 1-spored asci, spores muriform, 85–100(–105) × 25–30 μm in size, I + purple blue color reaction in hymenium and spores and norstictic and stictic acids as major chemical substances.

Diorygma hieroglyphicum was described from St. Domingo (L–holotype !, without detail locality, on bark) by Persoon (1811) under the name, *Opegrapha hieroglyphica* Persoon and has been well revised by Kalb et al. (2004).

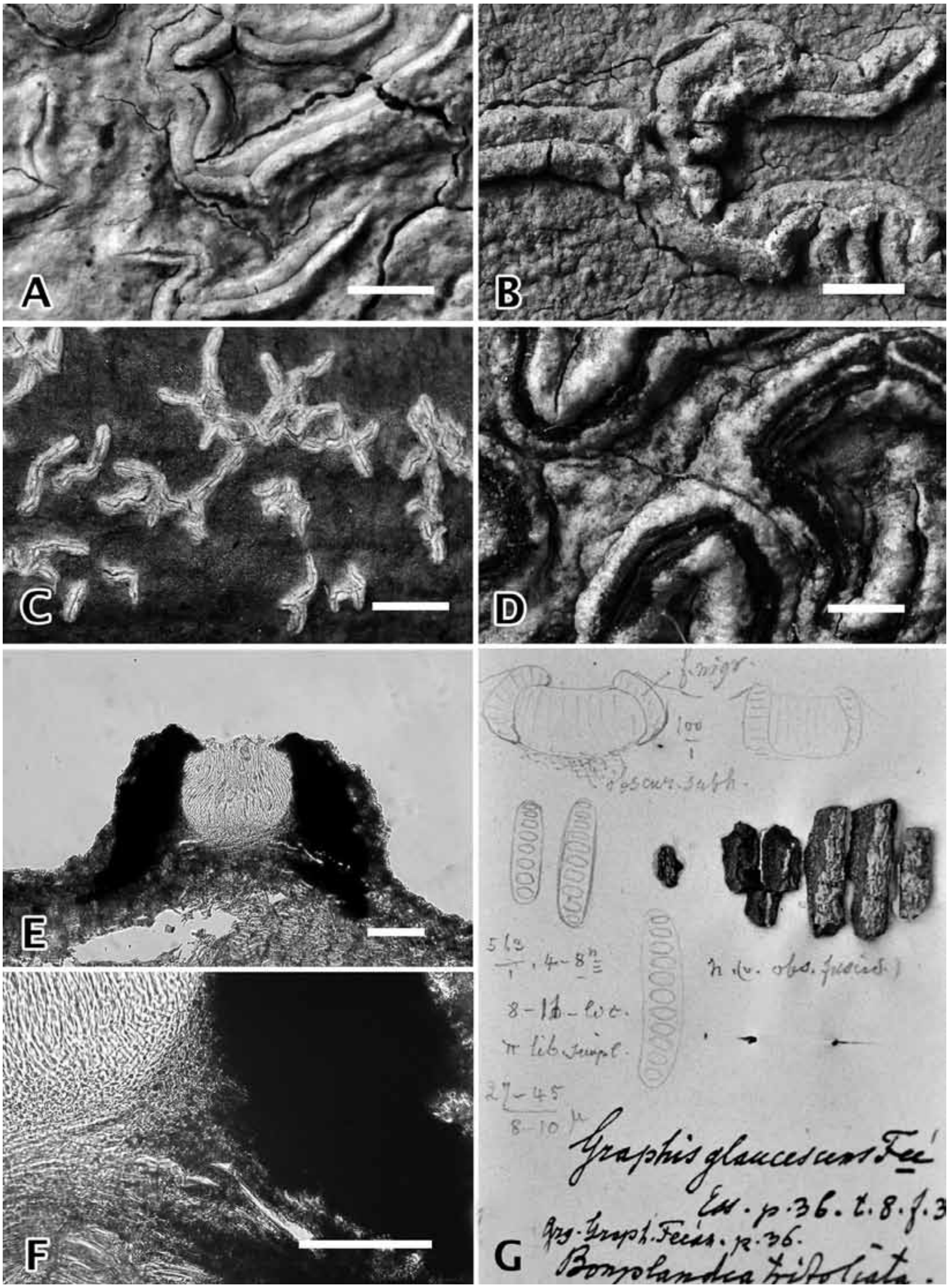

Fig. 1. A. *Carbacanthographis induta* (Müll. Arg.) Lücking (H. Kashiwadani 47739). B. *Diorygma hieroglyphicum* (Pers.) Staiger & Kalb (H. Kashiwadani 47911). C. *Fissurina dumastii* Fée (H. Kashiwadani 50186). D–F. *Graphis cambodiensis* M. Nakan., Kashiw., & K. H. Moon (H. Kashiwadani 47773). D. Part of holotype. E. Cross section of apothecia, showing exciples carbonized laterally and open at base. F. Detail of E (magnified). G. Isotype of *Graphis glaucescens* Fée in G. Scale bars = 1 mm (A–D) and 50 μm (E & F).

Specimens from Cambodia coincide well with the type morphologically and chemically.

This species is widely distributed in tropical and subtropical regions in the world, having been reported from Australia, Cambodia, Cameroon, India (Andaman Islands), Indonesia (Java, Sarawak), New Caledonia, Papua New Guinea, the Philippines, Singapore, Society Island, St. Domingo , Tanzania and Vanuatu (Persoon 1811, Nakanishi et al. 2002, Staiger 2002, Kalb et al. 2004, Kashiwadani 2008). In the present area, it is one of the most common species of *Graphidaceae*.

Representative specimens examined. Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on bark of *Dipterocarpus alatus*, elevation about 30 m, December 20, 2005, H. Kashiwadani (47774) and K. H. Moon (distributed in Kashiwadani: Lich. Min. Cogn. Exs. 357); the same locality and date, on bark of *Ficus* sp., H. Kashiwadani 47757.

Fissurina dumastii Fée, Essai Crypt. Exot. 90 (1824). [Fig. 1C]

This species was characterized by the pale fawn thallus, the fissured lirellae, which often crowded forming clusters of 4–5 mm across, the non-carbonized exciples, the colorless 4-spored spores 16–18 × 7–8 µm in size and no secondary substance.

This species was well revised taxonomically by Staiger (2002) and has been reported from Australia, Azores and Brazil (Staiger 2002, Aptroot and Rodrigues 2005). This is the first record of the species from Asia. In the present area, it was rarely found on tree trunks under more or less shaded conditions. In addition, several specimens collected in central to southern Japan are now identified with *F. dumastii.*

Specimen examined. Cambodia. Prov. Siem Reap: Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on bark of *Tetrameles nudiflora*, elevation about 30 m, July 19, 2006, H. Kashiwadani 50186.

Additional specimens examined. Japan. Oki Islands, Prov. Oki (Pref. Shimane): Mt. Ohmine, Tsuma-mura, on bark of *Camellia japonica*; elevation about 280 m, H. Kashiwadani 21014. Shikoku. Prov. Sanuki (Pref. Kagawa): En route from ropeway Sacho station to Kountei, Kankakei, Uchinomi-cho, Shodo-gun, on bark of *Acer platyphyllum*, elevation 150 m, Dec. 19, 1998, H. Kashiwadani 3537. Ryukyu. Yaeyama Islands: En route from Landing place to Maryudo Water Fall, along Urauchi River, Iriomote Island, on tree bark, elevation 20–80 m, Feb. 13, 1993, S. Arakawa 113.

Graphis cambodiensis M. Nakan., Kashiw., & K. H. Moon, sp. nov. [Fig. 1D–F]

Similis *Graphi acharii* sed excipulis proprio aperto et acidium norsticticum continentibus differt.

Thallus corticolous, continuous, smooth, grayish green to whitish gray, dull. Apothecia simple or sparingly branched, prominent, up to 7 mm long, 0.7 mm wide; lirellae prominent, covered with thalline margin up to the top; labia entire or more or less striate with age; exciples carbonized laterally, open at base, 60–80 µm thick; hymenium not inspersed, I–, 110–120 µm high; hypothecium 20–25 µm thick. Asci 1(–2) spored; spores muriform, colorless, I + purple, 70–95 × 25–35 µm.

Type collection: Cambodia. Prov. Siem Reap: Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E). On bark of *Tetrameles nudiflora*, elevation about 30 m, Dec. 20, 2005, H. Kashiwadani 47773 (TNS–holotype, distributed in H. Kashiwadani: Lich. Rar. Crit. Exs. 357 as *Graphis acharii* Fée).

Chemistry: norstictic acid and connorstictic acid.

Graphis cambodiensis is unique in having simple or sparingly branched and prominent lirellae highly covered with thallus (Fig. 1D), the smooth or more or less striate labia, the exciples carbonized laterally (Fig. 1E, F) and the muriform colorless spores and in producing norstictic and connorstictic acids as chemical substances.

Graphis cambodiensis is easily confused with *G. acharii* (Fée) Müll. Arg., a species often reported from tropical areas in the world, which differs from the former in having exciples carbonized both laterally and basically and in having no chemical substance. *Graphis cambodiensis* also resembles *G. neoelongata*

Lücking, a species described from Brazil (Type collection: no precise locality, E. Vainio s.n. (TUR-Vainio 27202–not seen), which differs in having radiantly branched lirellae and in producing stictic acid.

In the present area, this species is found at only one locality, where it forms well-developed colonies on bark of *Tetrameles nudiflora*.

Representative specimens examined. Cambodia. Prov. Siem Reap: Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on bark of *Tetrameles nudiflora*, elevation about 30 m, Dec. 20, 2005, H. Kashiwadani 47741, 47744; the same locality and habitat, July 27, 2009, H. Kashiwadani 50152.

Graphis glaucescens Fée, Essai Crypt. Exot. **1**: 36 (1825). [Figs. 1G, 2A]

Graphis glaucescens was described by Fée basing on a specimen collected in "America, ad corticem *Bonplandiae trifoliae*". Although we did not examine the original material, we had an opportunity to study a specimen preserved in G (Fig. 1G), which was annotated as "Graph. Féean. P. 36, auf *Bonplandiae trifoliae*" by Müller Argoviensis. This specimen was possibly considered as an isotype by Müller Argoviensis. Specimens collected in the present area coincide well with the specimen mentioned above and agree with the description given by Müller Argoviensis (1887).

The diagnostic characteristics for this species are the thin or poorly developed thallus, which is often restricted only to the periphery of lirellae, the more or less striate labia with whitish gray pruina, the narrow disc invisible from surface view, the apically carbonized exciples, the 8-spored asci, the colorless spores with 7–10 transverse septa, 30–40 × 6–8 μm and producing no secondary substance.

This species seems to have a wide distribution in tropical and subtropical areas in the world, but only few localities has been reported from Brazil (Vainio 1890, Redinger 1935), Colombia (Nylander 1863), Dominica (Wirth and Hale 1978), New Caledonia (Nylander 1868), the Philippines (Vainio 1921) and Vanuatu (Nakanishi et al. 2002). The distribution range now includes Cambodia.

Specimens examined. Cambodia. Prov. Siem Reap: Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on bark, elevation about 30 m. July 19, 2006, H. Kashiwadani 47931; NW of Beng Mealea village (13°29′N, 104°13′E). On bark of *Ficus* sp.; elevation about 30 m, Sept. 14, 2007, H. Kashiwadani 48939.

Graphis supracola A. W. Archer in Austr. Syst. Bot. **14**: 267 (2001). [Fig. 2B]

Graphis supracola is distinct from other Cambodian *Graphis* in having branched lirellae with closed discs and complete labia without striation, exciples carbonized laterally, 8-spored asci, spores colorless, 6–8 transversely septate and 25–32 × 6–8 μm in size and in producing protocetraric acid. The specimens from Cambodia coincide well with the descriptions and illustrations given by Archer (2001).

Although this species has been reported only from Australia, the distribution range now includes Cambodia, where it is rather common on branches of trees.

Representative specimens examined. Cambodia. Prov. Siem Reap: Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E). On bark of *Ficus* sp., elevation about 30 m. Dec. 20, 2005, H. Kashiwadani 47755b; the same locality, on bark, July 27, 2009, H. Kashiwadani 50107, & 50127.

Gymnographa heterospora (Nyl.) Staiger in Bibl. Lichenol. **85**: 271 (2002). [Fig. 2C]

This species has been well revised by Staiger (2002), who reported it from Africa, West Indies, Réunion and Australia (Staiger 2002). The distribution range now includes Cambodia, where it was found on sandstone wall of Ta Nei temple.

Specimens examined. Cambodia. Prov. Siem Reap: Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on rock (sandstone), elevation about 30 m. Dec. 20, 2005, H. Kashiwadani 47767; the same locality, July 18, 2006, H. Kashiwadani (47920) & K. H. Moon.

Hemithecium aphanes (Mont. & v. d. Bosch) M. Nakan. & Kashiw. in Bull. Nat. Sci.

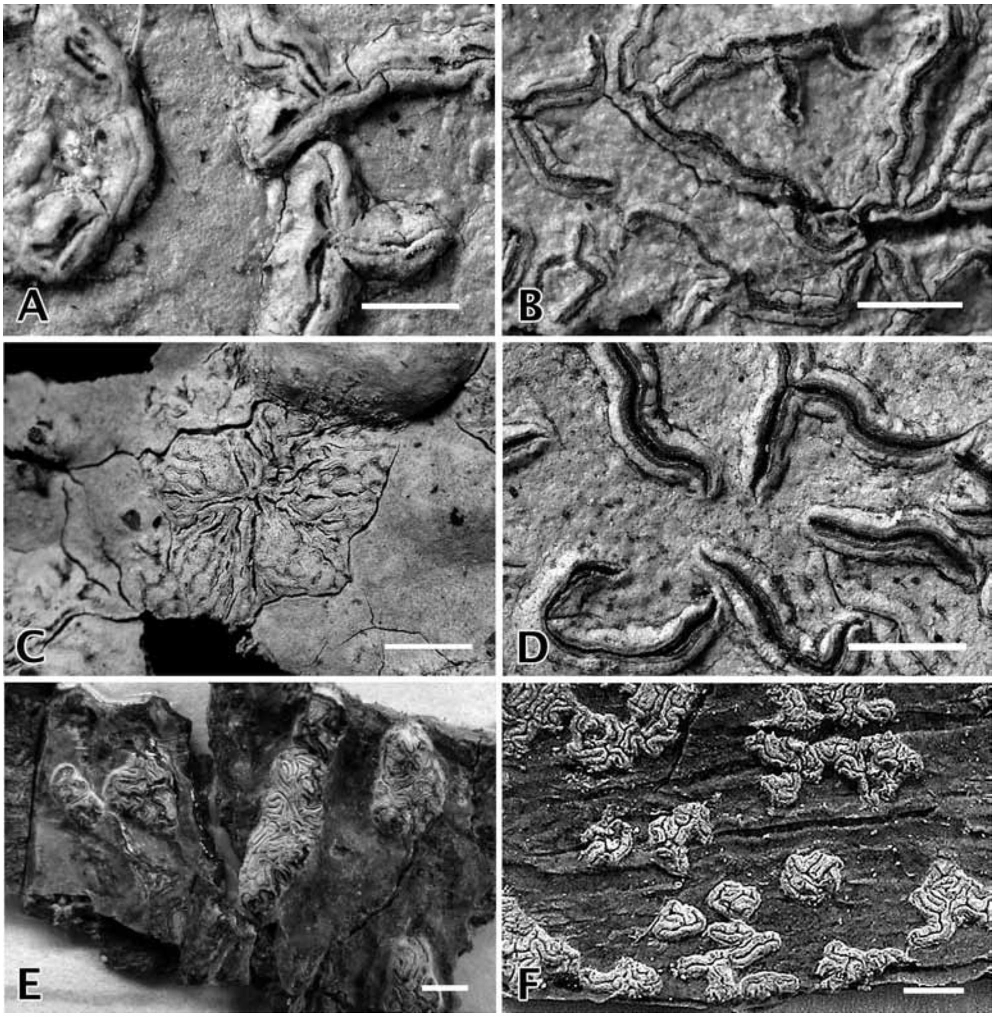

Fig. 2. A. *Graphis glaucescens* Fée (H. Kashiwadani 47931). B. *Graphis supracola* A. W. Archer (H. Kashiwadani 47755b). C. *Gymnographa heterospora* (Nyl.) Staiger (H. Kashiwadani 47920). D. *Hemithecium aphanes* (Mont.) M. Nakan. & Kashiw. (H. Kashiwadani 47769). E–F. *Sarcographa gyrizans* (Leight.) Müll. Arg. E. Part of isotype (G. H. K. Thwaites 168, G). F. *Sarcographa gyrizans* (H. Kashiwadani 47912). Scale bars = 1 mm.

Mus. Tokyo, Ser. B, **29**: 88 (2003). [Fig. 2D]

Hemithecium aphanes was originally described from Java (Type collection: Java, Teysman s.n. (L–holotype !) under the name *Graphis aphanes* Mont. & v. d. Bosch and has been well revised by Nakanishi et al. (2001).

In Cambodia, this species might be confused with *Fissurina dumastii*, which differs in having 4-celled spores and in producing no chemical substance; *H. aphanes* has transversely 7–8-septate spores, 30–40 µm in length and produces norstictic and stictic acids.

This species is very rare in the present area where it was found on bark of *Tetrameles nudiflora* at only one locality. Although this species seems to be widely distributed in tropical areas in Asia, it has been reported only from Japan (Yaeyama and Bonin Islands), Java, Thailand and Vietnam (Vainio 1901, Nakanishi 1981, Nakanishi et al. 2001).

Specimens examined. Cambodia. Prov. Siem Reap: Around Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on bark of *Tetrameles nudiflora*, elevation about 30 m, Dec. 20, 2005, H. Kashiwadani 47769, 47770.

Sarcographa gyrizans (Leight.) Müll. Arg. in Flora **70**: 77 (1887). [Figs. 2E, 2F]

Basionym. *Glyphis gyrizans* Leight. in Trans. Linn. Soc. London **27**: 161 (1869). Type collection: on bark, Ceylon, G. H. K. Thwaites 168 (holotype not seen; G–isotype) (*tlc*: stictic acid).

Graphis commaculans Vain. in Ann. Acad. Sci. Fenn. **15**: 196 (1921), **syn. nov**. Type collection; the Philippines, Luzon, Subprov. Sorsogon, Irosin, ad corticem arboris A. D. E. Elmer 14639 (H-Vainio 27135, TUR–holotype) (*tlc*: stictic acid).

Specimens examined. Cambodia. Prov. Siem Reap: Ta Nei temple, Angkor Wats complex, Siem Reap (13°27′N, 103°53′E), on bark, elevation about 30 m. July 18, 2006, H. Kashiwadani 47912; the same locality, on bark, July 27, 2009, H. Kashiwadani 50087; Western Prasat Top, Angkor Wats complex, Siem Reap (13°26′N, 103°51′E), on bark of *Tetrameles nudiflora*, elevation about 30 m, Dec. 20, 2005, H. Kashiwadani 50181.

Characteristic features for the present species are as follows: thallus crustose, cream buff in color; lirellae branched, prominent, crowded, forming pseudostroma, covered with grayish white pruina; proper exciples carbonized laterally, pale brown at the bottom; asci 8-spored, spores brown, submuriform (6–7/1–2 locules), 22–28 × 8–10 μm in size; stictic acid present as a major secondary substance.

Vainio (1921) described *Graphis commaculans* Vain. from the Philippines. Holotype specimen of this species has characteristic features quite similar as those of *Sarcographa gyrizans* described above and simply reduced to a synonym of this species.

Sarcographa gyrizans has been reported from only two localities in Ceylon and the Philippines. During the present survey, however, we collected four specimens of this species on tree barks, growing together with *Graphis, Laurea* and *Letrouitia* at elevation about 30 m.

We wish to express our sincere thanks to the curators of G, H, L and TUR for examination of type specimens used for the present study. Thanks are also to Dr. S. Kurokawa of the Botanic Gardens of Toyama for critical reading of the manuscript. Thanks are extended to Mr. S. Sophearin of the Authority for the Protection and Management of Angkor and the Region of Siem Reap for his kind support during our field studies in Cambodia.

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中西 稔[a]，柏谷博之[b]，二神葉子[c]，文 光喜[d,*]：**カンボジア産モジゴケ科地衣類９種（子嚢菌門，ビンタケ目）**

カンボジア産モジゴケ科の分類学的研討を行ったので報告する．モジゴケ科地衣類はいずれも痂状性（固着性）の地衣体とリレラ状の子嚢果を有する．カンボジア産のモジゴケ科はこれまでに*Diorygma hieroglyphicum* (Pers.) Staiger & Kalbと*Graphis acharii* Féeの２種が報告されていた．筆者らがカンボジアのアンコール遺跡群周辺で行った現地調査で得た標本を検討した結果，次の９種を確認した．上記２種以外はいずれもカンボジア新産である：*Carbacanthographis induta* (Müll. Arg.) Lücking, *Diorygma hieroglyphicum* (Pers.) Staiger & Kalb, *Fissurina dumastii* Fée, *Graphis cambodiensis* M. Nakan., Kashiw., & K. H. Moon, *Graphis glaucescens* Fée, *Graphis supracola* A.W. Archer, *Gymnographa heterospora* (Nyl.) Staiger, *Hemithecium aphanes* (Mont. & v. d. Bosch) M. Nakan. & Kashiw., *Sarcographa gyrizans* (Leight.) Müll. Arg. カンボジアから*Graphis acharii*として報告されたものは新種であることが判明したので，*Graphis cambodiensis*として記載された．Vainio (1921) がフィリッピンから記載した*Graphis commaculans* Vain. は*Sarcographa gyrizans*の異名であることがわかった．以下，各種について概略を述べる．

１）*Carbacanthographis induta*：地衣体は灰白色，果托はよく発達し，果殻の上部は灰白色の粉霜で被われる．果殻は側面だけが炭化し，底部は炭化しない．子嚢中に 4(–6) 個の胞子を生じる．胞子は無色，長楕円形で 12–14 の横隔膜のみを持つ．地衣成分としてノルスチクチン酸と微量のスチクチン酸を含む．調査地では日当たりがよい*Dipterocarpus alatus*や*Tetrameles nudiflora*などの大木の樹皮に生育する．アジア特産種でこれまでに基準標本が採集されたベトナムからの報告が唯一のものであったが，今回の調査でカンボジアにも産することがわかった．

２）*Diorygma hieroglyphicum*：地衣体は灰白色，リレラも地衣体と同色であるが，果托と地衣体の境目は明瞭な亀裂を生じる．子嚢果の盤は帯黄褐色で開き，灰白色の粉霜を持つ．果殻は炭化せず、淡褐色．子嚢には１個の胞子を生じる．胞子は無色，多室，85–100(–105) × 25–30 μm．ノルスチクチン酸とスチクチン酸を含む．世界中の熱帯から亜熱帯に広く分布する．調査地内では最も普通に産するモジゴケ科地衣類の一つである．

３）*Fissurina dumastii*：地衣体は薄膜状でやや光沢がある．リレラは淡褐色，地衣体の亀裂として生じ，果托はやや盛り上がる．子嚢は８個の胞子を持つ，胞子は無色，４室，16–18 × 7–8 μm．地衣成分は含まない．本種はこれまでにアゾレス諸島，オーストラリア，ブラジルから報告されているが，アジアから初めての報告である．また，日本産の数標本にも本種と同定され，日本にも産することが確認された．

４）*Graphis cambodiensis*：地衣体は灰白色，粉芽や裂芽はない．リレラは盛り上がり，果托は上部まで地衣体で被われる．果殻は側面のみ炭化し，底部は炭化しない．子嚢は 1(–2) 個の胞子を生じる．胞子は，無色多室，70–95 × 25–35 μm．ノルスチクチン酸を含む．本種は熱帯に広く分布する*G. acharii*に外形が似ているが，後者は果殻底部が炭化し , 地衣成分を含まない点で区別される．調査地では日がよく当たる*Tetrameles nudiflora*に普通に見られる．カンボジア特産種である．

５）*Graphis glaucescens*: 地衣体は薄く，リレラ周辺だけに顕著に発達する．リレラは不規則に分枝し，果托には線状痕を生じるが目立たない．果殻は上部のみ炭化し側部，底部は淡褐色で炭化しない．子嚢は８個の胞子を生じる．胞子は無色，7–10 個の横隔壁を持つ，30–40 × 6–8 μm．地衣成分を含まない．世界の熱帯から亜熱帯に分布すると考えられるが，現在までにコロンビア，ドミニカ，ニューカレドニア，バヌアツ．フィリッピン，ブラジルなどの数カ所から報告があるだけである．

６）*Graphis supracola*：地衣体は灰白色，リレラは通常巾 0.3 mm 以下と細く，不規則に分枝する．果殻は側面のみ炭化し底部は灰白色, 子嚢は８個の胞子を生じる，胞子は無色，25–32 × 6–8 μm．地衣成分としてプロトセトラール産を含む．本種はオーストラリで記載されて以来 (Archer 2001)，新たな産地は報告されていない．調査地では樹木の枝先に生じることが多い．

７）*Gymnographa heterospora*：地衣体は灰白色，リレラは集合して偽子座を作る．本種は分類学的には精査され，アフリカ，西インド諸島，レユニオン，オーストラリアから報告されている（Satiger 2002）がアジアからの報告はなかった．調査地では岩上に生じる唯一のモジゴケ科地衣類であり，タ・ネイ遺跡の砂岩の柱に

Chiodecton sp. と共に着生していた．現時点で生育が確認されているのは調査地内では一カ所だけである．

８）*Hemithecium aphanes*：東アジアに広く分枝，分類学的には中西ら (Nakanishi 2001, 2002) によって精査されている．淡褐色の果殻を有し，胞子は無色，7–8 条の横隔壁のみを持ち，30–40 × 6–8 µm，地衣成分としてノルスチクチン酸とスチクチン酸を含むので近縁種からは容易に区別できる．調査地では稀で *Tetrameles nudiflora* の一カ所だけで採集された．

９）*Sarcographa gyrizans*：地衣体は薄く淡褐色，リレラは不規則に屈曲し集合する．果托は盛り上がり，白粉で被われる．果殻は側部で炭化するが，底部は褐色．胞子は褐色，縦に 1–2 条，横に 6–7 条の隔壁がある，22–28 × 8–10 µm．スチクチン酸を含む．本種はこれまでにセイロンとフィリッピンから報告があるだけの稀種である．

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